UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

MAY 23 2019

SUBJECT: Additional Funding Request and Request for Exemption from the 12-Month Statutory Limit, and Change in Scope of Work for the Shiloh Church Road Site, Nathalie, Halifax County, VA

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I. PURPOSE

The purpose of this Action Memorandum is to request additional funding and an exemption from the 12-month CERCLA statutory limit for a change and increase of scope of work to continue removal actions at the Shiloh Church Road Site, located in the unincorporated community of Nathalie, Halifax, County, Virginia (Site). The Site consists of three properties where hazardous substances are located, as well as approximately seven residential drinking water wells where elevated levels of contamination have been documented. An expanded removal assessment has identified additional removal actions that are necessary to mitigate the release of hazardous substances, pollutants, or contaminants contained in containers, surface soils, debris containing radioactive hazardous substances, and groundwater at the Site. Removal actions to date have been limited to the provision of bottled water and installation of filtration systems for residences with elevated levels of tetrachloroethylene (also known as, tetrachloroethene) and trichloroethylene (also known as, trichloroethene) in their drinking water wells. Trichloroethylene and tetrachloroethylene are volatile organic contaminants (VOCs) and are listed hazardous substances in Table 302.4 at 40 C.F.R. § 302.4.

A Special Bulletin authorizing funds in the amount of $250,000, $150,000 of which are Regional Removal Allowance Costs, was issued by the EPA On-Scene Coordinator (OSC) on June 25, 2018. Removal actions began on June 27, 2018, and are ongoing. A removal

assessment has revealed that additional actions are necessary. Additional hazardous substances, which may pose an imminent and substantial threat to public health, welfare and the environment, have been identified at the Site. Additional funds are being requested in the amount of $1,687,965, raising the total Site ceiling to $1,938,000, of which $1,614,988 are Regional Removal Allowance Costs.

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Removal Site Evaluation

In April of 2018, representatives from the Virginia Department of Environmental Quality (VDEQ) requested EPA assistance to perform a Removal Site Evaluation, in accordance with the National Oil and Hazardous Substances Contingency Plan (NCP), 40 C.F.R. § 300.410, in an area near the intersection of LP Bailey Highway and Shiloh Church Road in Nathalie, Halifax County, Virginia. The area referred by VDEQ consists of two properties, referred to as Properties #1 and #2 and described in more detail below, which are owned by private individuals. The properties were historically used as a scrap metal yard and as a convenience store, respectively. However, these businesses ceased operations in the mid-2000s. Upon the death of the properties' then owner in 2009, the properties were bequeathed to family members.

In January of 2018, a Phase II environmental assessment of the properties was performed on behalf of a current owner of these properties. This assessment included testing of monitoring wells and drinking water wells in the vicinity. The assessment revealed the presence of VOCs, primarily trichloroethene and tetrachloroethene in drinking water wells above EPA's regulatory limits for public drinking water systems. VDEQ requested EPA's assistance to confirm these results and expand the area of investigation. In April of 2018, EPA retested a residential well which had an elevated level of tetrachloroethene according to the findings of the Phase II report. EPA's results were consistent with previous findings.

A Unified Command structure was established to include local and Commonwealth partners with authority and jurisdiction pertaining to environmental actions at the Site. The Unified Command for the Site includes representatives from Halifax County Government, the Virginia Department of Health (VDH), the Virginia Department of Emergency Management (VDEM), VDEQ, and EPA. Unified Command members met and developed a plan of action which included sampling of the residences in the area near the intersection of LP Bailey Highway and Shiloh Church Road. This sampling assessment included both residential wells previously tested as well as additional residential wells in the area. All residents in this area utilize private wells for drinking water.

In May of 2018, EPA performed additional sampling which confirmed the presence of hazardous substances at elevated concentrations in several drinking water wells. In June of 2018, the OSC prepared a Special Bulletin to provide bottled water and water treatment systems to two residential properties at which elevated levels of trichloroethene were detected in drinking water wells.

In August of 2018, EPA performed an expanded Removal Site Evaluation to determine if other hazardous substances were present at the Site in concentrations that met the criteria for an EPA Removal Action as described in 40 C.F.R. § 300.415.

2. Physical Location/Site Characteristics

EPA's expanded Removal Site Evaluation identified three properties where the presence of hazardous substances meets the criteria for a removal action. These properties are located near the intersection of Shiloh Church Road and L.P. Bailey Memorial Highway in the unincorporated community of Nathalie, Halifax County, VA. The Site properties are owned by private residents.

Two of the three properties are referred to in this document as Property #1 and Property #2. These properties comprise the area studied in the Phase II assessment referenced above. Property #1 was formerly used as a salvage yard. This area is approximately 5.5 acres in size. Based on information provided by the current owners of Property #1 and Property #2, the former owner bought and sold equipment, some of which may have contained hazardous substances. To EPA's knowledge, no manufacturing, processing, or handling of hazardous substances was performed on this property.

Property #2 was formerly used as a convenience store. The size of this property is approximately 4 acres. The vacant store building is still located here. Five underground storage tanks (each with a capacity of less than 2100 gallons) containing fuel were located on this property. The maintenance and closure of these tanks falls under the authority of VDEQ and is not part of EPA's current or future removal actions.

The third property, Property #3, is an area owned by a separate private resident and was not evaluated as part of the January 2018 Phase II assessment. Battery casings containing lead were discovered on this property.

No active commercial or industrial actions are currently performed on any of the three properties. The actions proposed in this document will be conducted only in those areas of the properties where the hazardous substances are present.

In addition to identifying properties where the presence of hazardous substances meets the criteria for a removal action, EPA also has identified seven private residential properties where contamination was detected in drinking water wells. Two of those wells were addressed by EPA pursuant to the June 2018 Special Bulletin. An additional five wells were identified as part of EPA's expanded Removal Site Evaluation.

All the properties which comprise the Site are located in Nathalie, Halifax, County, VA. Property #1 and Property #2 are zoned for agricultural use. The surrounding area is residential. L.P. Bailey Highway, also known as State Route 501, is a busy highway which runs north and south through the Site. Nathalie is an unincorporated community in south central Virginia. The area is primarily residential with a population less than 200 (2010 Census Data).

3. Quantities and Types of Substances Present

a. *Drinking Water Contamination*

Trichloroethylene and/or tetrachloroethylene, both VOCs, were detected in six residential wells at elevated levels at the Site. Three of these wells contained trichloroethene; two wells contained tetrachloroethene; and one well contained both trichloroethene and tetrachloroethene. Two of the three wells containing only trichloroethene over the Removal Management Level of 49 ug/l were identified in EPA's June 2018 Special Bulletin. Additional residential wells close to the Site were not sampled due to access denial, but also may be contaminated with elevated levels of VOCs or other hazardous substances related to the Site. Both trichloroethylene and tetrachloroethylene are listed hazardous substances under 40 C.F.R. § 302.4

Trichloroethylene, also known as trichloroethene, or TCE, is a colorless volatile liquid used primarily as a degreasing agent. The National Toxicology Program has determined that trichloroethylene is a "known human carcinogen". EPA and the International Agency for Research on Cancer (IARC) have determined that trichloroethylene is "carcinogenic to humans" (ATSDR 2016).

Tetrachloroethene, also known as tetrachloroethylene, perchloroethylene, PCE, or PERC, is also a colorless volatile liquid. Studies in humans suggest that exposure to tetrachloroethene might lead to a higher risk of getting bladder cancer, multiple myeloma, or non-Hodgkin's lymphoma, but the evidence is not very strong (ATSDR). EPA considers tetrachloroethylene carcinogenic to humans by all routes of exposure. The IARC considers tetrachloroethylene probably carcinogenic to humans (ATSDR).

Both trichloroethene and tetrachloroethene are subject to the National Primary Drinking Water Regulations. These regulations establish Maximum Contaminant Levels (MCLs) for public drinking water systems. The MCL value for both trichloroethylene and tetrachloroethylene is 5 micrograms/liter (µg/l). Although MCL values do not apply to residential wells, MCL values are considered when conducting risk assessments. A total of six residential wells contain trichloroethene and/or tetrachloroethene above the MCL.

The source of the VOC contamination of the residential wells is currently unknown. Both trichloroethylene and tetrachloroethylene were widely used as degreasers in the mid-1900s. In addition, tetrachloroethylene is commonly found in groundwater near

former dry-cleaner sites. EPA is not aware of any historic operations performed at the Site that may have used trichloroethylene or tetrachloroethylene. No dry-cleaning facilities are operating at the Site, nor is EPA aware of any dry-cleaning facilities nearby. The affected wells may be impacted by a non-point source or multiple sources of these contaminants.

Lead was detected above the applicable MCL in another residential drinking water well located near Property #3 where battery casings were discovered. High levels of lead were discovered on Property #3. (see Section e. below for additional details) Lead in drinking water can cause adverse health effects. Young children, infants, and fetuses are particularly vulnerable to the effects of lead in drinking water.

b. *Poly-Chlorinated Biphenyl Compounds (PCBs)*

Remnants of transformers were found on Property #1. Surface soil around the transformer carcasses was visibly contaminated. Soil samples collected in these areas confirm the presence of PCBs in concentrations as high as 140,000 milligram/kilogram (mg/kg) in stained surface soils.

1: Example of area where PCBs were detected in surface soils

PCBs were detected in low concentrations in subsurface samples. A sample collected at 1-2 feet below surface contained approximately 2.4 mg/kg of PCBs. Samples collected deeper into the soil did not detect the presence of PCBs.

To EPA's knowledge, PCBs were not used or processed at the Site. The PCB contamination at the Site appears limited to the improper disposal of PCB-containing equipment such as transformers.

At this time, the area on Property #1 where PCB contamination has been identified is not considered a high-occupancy area as defined under the Toxic Substances Control Act, 40 C.F.R. § 761.3. However, the Site is zoned for agricultural use, so the property may be used for other purposes in the future.

c. *Radioactive Contaminated Debris*

In preparation for sampling activities, EPA conducted a radiation survey. This radiation survey revealed the presence of radioactive contaminated debris on Property #1 of the Site. EPA identified the radioactive isotope as Radium-226 (Ra^{226}). The source of the radiation is likely the improper disposal of radioluminescent personnel markers or marker debris. These markers were historically used in the 1950s to illuminate the edges of a ship or bridge.

Example of a radioluminescent personnel marker (Source Oak Ridge Associated Universities)

2 Example of radioluminescent personnel marker found at the Site

Radiation was detected at levels up to 3.5 millirem/hour (mR/hr) at the direct surface of the objects. The unit millirem/hour describes exposure. Background radiation is generally in the 0.01-0.03 mR/hr range.

The radiation contained in these devices and debris at the Site can be mitigated using the principles of time, distance, and shielding. Risk of radiation exposure is minimal unless a person would come into direct contact with the item.

d. *Drums and Small Containers*

i) *Drums*

Abandoned drums were identified on the east end of Property #1. Approximately 40 drums were consolidated in this area. The drums were old, damaged, and many were missing labels or markings. EPA's contractor was able to collect samples from 12 of the drums.

Figure 3 Drum area of the Site

Most of the drums contained a white solid substance, which is likely a surfactant or soap product. Labels on two drums indicated contents of "Methanol Tech" and "Isopropyl Alcohol", both flammable substances. Samples collected from two drums tested positive for ignitability. The contents of these drums meet the definition of the Resource, Recovery and Conservation Act (RCRA) Ignitable Hazardous Waste as described in 40 C.F.R. § 262.21.

A third drum contained an oil-like substance. The analysis of the sample collected from this drum indicated the presence of semi-volatile organic compounds including 4-methylphenol (243 milligrams/l (mg/l)) and phenol (53 mg/l). These contaminants are listed hazardous substances under 40 C.F.R. § 302.4.

None of the drums tested contained trichloroethene or tetrachloroethene, so the drum area on the Site has been ruled out as the source of the groundwater contamination at this time.

ii) *Photo Developer Fluid*

Hundreds of photo developer fluid bottles are scattered throughout Property #1. Many of these bottles contain a brown liquid. EPA contacted the company name on the bottle ("Solutek") to obtain a Safety Data Sheet (SDS). Although this product is no longer manufactured, the SDS indicates the two primary ingredients as hydroquinone and potassium hydroxide.

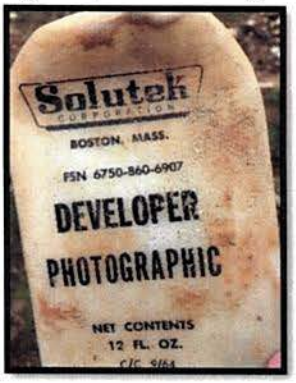

Figure 5: Example of container found on Site

Both hydroquinone and potassium hydroxide are used in photo developing solutions. The hydroquinone acts upon exposed light-sensitive silver halide crystals to turn them black, exposing the image. The organic hydroquinone is activated by a caustic substance, in this case, potassium hydroxide.

Hydroquinone is an organic hydrocarbon, chemically similar to phenol. It is a high-volume commodity chemical used as a reducing agent, antioxidant, polymerization inhibitor, chemical stabilizer, chemical intermediate, and photographic reducer and developer. It is also used in skin lighteners, in cosmetics, and hair dye. Exposure effects usually appear after high doses are applied dermally, such as excessive use of skin-lightening cream, or ingestion. Dermal effects include ochronosis, a blue tint of the skin caused by a yellowing of the tissues beneath the skin.

Ingestion of hydroquinone can result in abdominal pain, cramping, nausea, and diarrhea.

Potassium hydroxide is a caustic substance with a high pH value. Direct exposure to potassium hydroxide can result in burns in the affected area.

Both hydroquinone and potassium hydroxide are listed on the SDS as being present in the developer fluid in concentrations less than 10% each. Both hydroquinone and potassium hydroxide are listed hazardous substances under 40 C.F.R.§ 302.4.

iii. *Gas Cylinders*

Approximately eleven pressurized gas cylinders were identified on Property #1 of the Site. Of these, only three had any markings, identifying them as oxygen cylinders. The contents of the cylinders are mostly unknown. The cylinders may contain common gasses such as oxygen or propane. Nevertheless, the cylinders pose a hazard if they are cut while under pressure. A pressurized cylinder which is compromised can release with great force and possibly cause damage to humans or property.

Figure 6: Example of abandoned cylinder

e. *Lead in Surface Soils*

During the removal assessment, EPA's contractor used field screening equipment (X-ray fluorescence (XRF)) to screen surface soils for elevated levels of metals. Samples were collected in areas where elevated levels of lead were identified.

Lead levels greater than 1200 mg/kg were detected in several areas on Properties #1 and #2. Elevated levels of lead are not uncommon in salvage yards.

While performing the assessment, the OSC requested permission from a private resident to access another property to perform surface water sampling. The resident agreed. During this conversation, the resident requested that EPA assess another property (owned by the same resident) where battery casings were deposited. The resident did not know the source of the debris but speculated that the battery casings may have been deposited on this property during the same time frame that the salvage yard operated.

With the owner's permission, EPA and EPA's contractor assessed the area identified by the resident. This is identified as Property #3. Again, EPA's contractor used field instrumentation to screen the area for elevated areas of potential lead contamination. Surface soil samples were collected in the areas with the highest findings using the XRF screening equipment. Two samples were collected. Both had lead concentrations greater than 30,000 mg/kg.

Figure 7: View of battery casing pile

EPA's standard for lead in bare soil in play areas is 400 ppm by weight and 1200 parts per million (ppm) for non-play areas [EPA 2000a] (ATSDR). The soil screening level (SSL) for lead represents a conservative estimate for a level that would be protective of public health in residential soils based on an analysis of the direct ingestion pathway for children. The areas where lead was detected in elevated concentrations are not considered children play areas. However, as the Site properties are all residential, the future possible uses of the Site must be considered during a removal action.

4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Hazardous substances as defined by Section 101(14) of CERCLA found in surface soils at the Site include PCBs, lead, and radium 226. Hazardous waste exhibiting a characteristic of ignitability, as defined by 40 C.F.R. § 261.21, was detected in drums at the Site. Small containers which contain or did contain hydroquinone and/or potassium hydroxide are scattered on surface soils at the Site. Volatile organic contaminants, including trichloroethene and/or tetrachloroethene were also detected in six residential wells at the Site, but the source of these hazardous substances cannot be confirmed. Lead was also detected in a seventh residential well.

5. National Priorities List Status

The Site is not on the CERCLA National Priorities List (NPL). The OSC is coordinating with the EPA's Site Assessment Manager (SAM) for Virginia to ensure adequate data is collected to meet the needs of a Preliminary Assessment/Site Inspection as directed by 40 C.F.R. § 300.420. The OSC will make every effort to obtain sufficient information for the SAM to perform an evaluation.

6. Maps, Pictures, and other Graphic Representations

A map of the general area of the Site is included in Attachment 1.

B. OTHER ACTIONS TO DATE

1. Previous Actions

EPA performed a Removal Site Evaluation at the Site in 2018 and an extended Removal Site Evaluation in 2019. Please refer to Section II. of this document for additional details. The assessment is ongoing.

The results of this assessment, as described in Section II. of this document, revealed the presence of hazardous substances in drinking water, abandoned containers, battery casings, and surface soils.

Current Actions

Due to the high levels of natural iron in the area of the Site, EPA is adding improvements to the installed water filtration systems at the two residential wells initially addressed by the June 2018 Special Bulletin. In February 2019, EPA retested the wells addressed by the June 2018 Special Bulletin to determine if the water filtration systems are still effectively reducing the VOC contamination. Limited supplies of bottled water also are being provided to these two residential properties.

In February of 2019, EPA also resampled a residential well located near Property #3. The result of this sampling indicates levels of lead above the EPA MCL.

EPA is also planning to perform additional testing in limited areas to determine if there is radiation contamination in residential drinking water as part of the assessment process.

C. STATE AND LOCAL AUTHORITIES ROLE

EPA is working in a Unified Command system with local and Commonwealth Agencies which have authority and jurisdiction regarding EPA's actions at the Site. These agencies include the VDEM, VDEQ, VDH, and Halifax County Emergency Services.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a response action. Paragraphs (b)(2)(i) through (v) of Section 300.415 apply as follows to the conditions as they exist at the Site:

i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Site Properties #1 and #2 are partially fenced. Property #3 is not fenced. Although the current owners of Properties #1 and #2 live nearby, access to the Site by unauthorized persons is possible. Vandals in search of scrap metal may accidentally come into direct contact with hazardous substances at the Site including, but not limited to, drums of flammable substances, cylinders with unknown contents, or direct exposure to radioactive debris. Removal actions are necessary to remove these hazards from the Site and prevent possible exposure to human and/or animal populations.

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

Trichloroethene has been detected in two residential drinking water wells at levels significantly above EPA's Removal Management Levels (RMLs). EPA installed water treatment systems on these wells pursuant to the June 2018 Special Bulletin. Continued monitoring is necessary to determine the useful life of the water treatment systems.

Two additional residential wells contain concentrations of trichloroethene greater than twice the EPA MCL of 5 µg/l. Additional removal actions are necessary to install water treatment systems on those wells. If no actions are taken, the health threats posed by elevated levels of trichloroethene in drinking water will continue. No additional mitigation measures are currently in place, nor are any future additional response actions planned by another public agency or private organization.

There is strong evidence that trichloroethene can cause kidney cancer in people and some evidence for trichloroethene-induced liver cancer and malignant lymphoma. Lifetime exposure to trichloroethene resulted in increased liver cancer in mice and increased kidney cancer and testicular cancer in rats. The National Toxicology Program (NTP) has determined that trichloroethene is a "known human carcinogen". EPA and the IARC have determined that trichloroethene is "carcinogenic to humans."

Three additional wells contain levels of tetrachloroethene above the MCL.

Studies in humans suggest that exposure to tetrachloroethene might lead to a higher risk of getting bladder cancer, multiple myeloma, or non-Hodgkin's lymphoma, but the evidence is not very strong (ATSDR). In animals, tetrachloroethene has been shown to cause cancers of the liver, kidney, and blood system.

EPA considers tetrachloroethene likely to be carcinogenic to humans by all routes of exposure. The IARC considers tetrachloroethene probably carcinogenic to humans. (ATSDR)

Lead was discovered above the EPA MCL in one drinking water well located near the battery casings. Lead is a naturally occurring substance and can often be found in plumbing and lead pipes. The homeowner was unable to verify whether the home plumbing at this residence contains lead. Lead in drinking water is especially toxic to infants and young children. Lead exposure to high amounts of lead resulting in children produce encephalopathy, a general term that describes various diseases that affect brain function Symptoms develop following prolonged exposure and include dullness, irritability, poor attention span, epigastric pain, constipation, vomiting, convulsions, coma, and death. Lead poisoning in children can leave residual cognitive deficits that can be still detected in adulthood. (ATSDR)

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

Flammable liquids are stored in drums on Site. Pressurized gas cylinders are also discarded on the Site. Additionally, numerous small containers of photo developer fluid, which contain hazardous substances, are also strewn throughout the Site. The containers are in poor condition and are not secured. Removal actions are necessary to properly remove and dispose of these containers so that their contents are not released offsite.

(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

High levels of PCBs, up to 140,000 mg/kg, were detected in one surface soil sample near a transformer carcass at the Site. PCBs are stable persistent compounds, which means they do not easily break down chemically. PCBs stick to the soil. They can be taken up in the food chain by small organisms and fish. Removal actions are necessary to remove the debris and surface soil contaminated by PCBs.

High levels of lead are present in areas where battery casings were discarded. Concentrations of lead in surface soils were greater than 30,000 mg/kg in some areas. An elevated level of lead was found in one residential well near the Site. Although lead was not found in children play areas, removal actions are necessary to remove soil and debris with high levels of lead contamination to prevent the lead from migrating into drinking water wells or onto residential surface soils. The health hazards of lead exposure in children are well documented.

Other volatile hazardous substances were also found in the surface soils in the drum area.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Hazardous substances at the Site are continually exposed to weather. No actions are currently in place to control the release of hazardous substances from the Site. Containers of hazardous substances will continue to deteriorate. Contaminated surface soils may continue to migrate offsite.

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release;

The Commonwealth of Virginia does not have the resources available to undertake a response action necessary to mitigate the imminent threat to public health, welfare, or the environment due to the release or potential release of hazardous substances, pollutants, or contaminants. To the OSC's knowledge, no appropriations are available from federal or Commonwealth partners to perform a response action of this magnitude.

IV. EXEMPTION FROM STATUTORY LIMITS

Due to the additional findings of the removal assessment as described above, an exemption from the 12-month statutory limit for a response action is requested to fully implement the proposed actions below to mitigate the immediate threats to public health, welfare, and the environment. Pursuant to EPA Delegation 14-2, Section 2.d. (dated April 15, 2019), the Regional Administrator may delegate the authority for CERCLA removal actions that meet the requirements of an emergency waiver as set forth in CERCLA §104(c)(1)(A) to the Director, Superfund and Enforcement Management Division.

Conditions at the Site meet the requirements of the emergency exemption as described below.

(i) Continued response actions are immediately required to prevent, limit, or mitigate an emergency;

Continued response actions are immediately required to limit the exposure to trichloroethene and tetrachloroethene in drinking water and to remove hazardous substances, pollutants, and contaminants from the Site. The actions proposed in this document will remove hazardous substances, including those stored in containers as well as surface soil contamination, to mitigate the threats described above.

Furthermore, installing water treatment systems on additional residential wells will mitigate the threat of ingesting drinking water contaminated with elevated levels of trichloroethene and/or tetrachloroethene.

(ii) There is an immediate risk to public health, welfare, or the environment;

The uncontrolled release of hazardous substances at the Site poses an immediate threat to public health, welfare, or the environment due the potential for exposure to these substances. Immediate actions are needed to protect drinking water, as well as to remove the sources of other hazardous substances at the Site, which pose a risk of release and/or migration offsite.

(iii) Such assistance will not otherwise be provided on a timely basis

Additional resources are not available from a potential responsible party(s), local, Commonwealth, or other federal agencies.

This request satisfies the following exemption criteria as set forth in CERCLA § 104(c)(1)(A), 42 U.S.C. § 9604(c)(1)(A), and § 300.415(b)(5)(i) of the NCP, 40 C.F.R. § 300.415b(5)(i).

V. ENDANGERMENT DETERMINATION

Actual and threatened releases of hazardous substances, pollutants, and contaminants from this Site, if not addressed by implementing the response action selected in this Additional Funding Request Action Memorandum, may continue to present an imminent and substantial endangerment to public health, welfare, or the environment.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. PROPOSED ACTIONS

1. Proposed Actions Description

The proposed actions are intended to mitigate the threats to public health, welfare, and the environment posed by the uncontrolled release of hazardous substances, pollutants, or contaminants. The actions will identify and remove, where possible, the sources of hazardous substances at the Site. The actions will also mitigate the threat of drinking water contamination in drinking wells at or near the Site with elevated concentrations of trichloroethene and/or tetrachloroethene. The OSC intends to implement the proposed actions as follows:

a. Secure the Site, as necessary, to prevent unauthorized access during removal actions;

b. With the permission of the owner(s), conduct sampling of additional residential drinking water wells near the intersection of Shiloh Church Road and L.P. Bailey Memorial Highway to determine if the wells contain elevated levels of trichloroethene and/or tetrachloroethene.

c. Install and maintain, for a period of 24 months of the date of this signed request, residential water treatment systems at residential locations where results of EPA sampling, on two separate occasions, indicate levels of contamination greater than EPA's MCLs for hazardous substances. This action will be limited to residences located in the vicinity of the intersection of Shiloh Church Road and L.P. Bailey Memorial Highway. The time frame of 24 months will provide EPA and the affected residents knowledge of the expected maintenance and useful life of the treatment media of the installed systems;

d. Perform vapor intrusion sampling in the crawl spaces of residential properties with elevated levels of VOCs in drinking water in concentrations twice above EPA MCL levels;

e. Request from ATSDR an evaluation of vapor intrusion data. Implement ATSDR's recommendations, as needed, for protective actions;

f. Perform additional sampling, as necessary, on nearby residential properties for hazardous substances identified at the Site;

g. Remove and properly dispose of drums, cylinders, and small containers which contain or did contain hazardous substances;

h. Remove and properly dispose of contaminated soil in areas where containers may have released hazardous substances;

i. Remove and dispose of PCB-contaminated equipment and contaminated surface soil to a cleanup goal of 1 mg/kg. Perform post-excavation sampling to determine if removal was effective;

j. Remove and properly dispose of radioactive waste including, but not limited to debris, contaminated soil, and contaminated vegetation, to levels not greater than three times background;

k. Remove and properly dispose of battery casings which may contain lead and/or acid;

l. Remove and dispose of contaminated soil beneath battery pile(s) and other surface soil on Site which exhibits field readings of greater than >400 mg/kg average of lead and/or contaminated with acid with a surface reading of pH <2;

m. Recycle or dispose off-site in accordance with CERCLA § 121(d)(3) hazardous substances, pollutants, or contaminants found on-site in containers which pose a threat of release;

n. Dispose of wastes generated by the above actions in accordance with CERCLA § 121(d)(3) and 10 C.F.R. § 31.12(c)(4);

o. Backfill as necessary to maintain proper soil and erosion controls;

p. Perform post-removal sampling as necessary to determine the effectiveness of the removal action;

q. Continue coordination with local and Commonwealth partners, as well as the current property owners, to determine the scope, cost, and potential for continuing post-removal Site controls once the removal action is complete.

2. Contribution to Remedial Performance

The OSC will continue to coordinate with the EPA Site Assessment Manager. The actions proposed will contribute to any future remedial actions which may be necessary at the Site.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

The proposed removal action will attain or exceed all ARARs to the extent practicable. Two factors will be applied to determine whether the identification and attainment of ARARs is practicable: (1) the exigencies of the situation; and (2) the scope of the removal action to be taken.

Commonwealth ARARs

The OSC has received a letter from the VDEQ dated March 5, 2019 identifying the preliminary Commonwealth ARARs for the actions described in this document. Additionally, a representative from VDEQ serves as an Agency representative on the Unified Command team. The OSC remains in close coordination with VDEQ to discuss ongoing response actions and compliance with Commonwealth ARARs.

B. Estimated Costs

The proposed distribution of funding is as follows:

EXTRAMURAL COSTS	Current Ceiling	Requested Ceiling Increase	Total Ceiling
Regional Removal Allowance Costs (Includes ERRS contractors, subcontractors, Notice or Proceed, and inter-agency agreements with other Federal Agencies	$ 180,000	$ 1,164,988	$ 1,344,988
Other Extramural Costs Not Funded from Regional Allowance:			
START	$ 70,000	$ 180,000	$ 250,000
Contract Laboratory Costs		$ 20,000	$ 20,000
Subtotal Extramural Costs	$ 250,000	$ 1,364,988	$ 1,614,988
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)		$ 322,977	$ 322,977
TOTAL REMOVAL ACTION PROJECT CEILING	$ 250,000	$ 1,687,965	**$ 1,938,000 (rounded to nearest 1000)**

VII. EXPECTED CHANGE IN SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the proposed actions at the Site are not implemented or are delayed, there exists the possibility for a continued imminent and substantial threat to public health, welfare, or the environment due to the uncontrolled release of hazardous substances.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues at this Site.

IX. ENFORCEMENT STATUS

The OSC has provided the EPA Hazardous Substance Cleanup Division Cost Recovery Branch with information available to pursue any and all enforcement actions pertaining to the Site. See attached Confidential Enforcement Addendum (Attachment 2).

The total cumulative EPA costs for this Removal Action, based on full cost accounting practices that will be eligible for cost recovery are estimated below as:

Direct Extramural Cost:	$ 1,614,988
Direct Intramural Costs:	$ 113,049
Subtotal	$ 1,728,037
Indirect Costs (64.22% of above)	$ 1,109,745
Estimated EPA Costs for the Removal Action:	$ 2,837,782

The total EPA costs for this Removal Action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $ 2,837,782.[1]

X. RECOMMENDATION

This Action Memorandum represents the selected Removal Action for the Shiloh Church Road Site in Nathalie, VA, developed in accordance with CERCLA and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

By signing this Action Memorandum, you are also hereby establishing the documents listed below as additions to the Administrative Record supporting the issuance of this Action Memorandum, pursuant to Section 113(k) of CERCLA and EPA Delegation No. 14-2.

1. EPA Publication 9320.2-10FS "Clarifying the Definition of a "Site" Under the National Priorities List"
2. Nathalie, VA: Wikipedia Web Page
3. Tetrachloroethylene: ATSDR Tox FAQs
4. Radioluminescent Personnel Markers, 1999, Oak Ridge Associated Universities
5. Trip Report
6. CERCLA Delegation of Authority, 14-2, dated April 15, 2019.
7. ATSDR Case Studies in Environmental Medicine: Lead Toxicity
8. EPA Guidance on Remedial Actions for Superfund Sites with PCB Contamination
9. TOXNET: Hydroquinone Report
10. EPA National Primary Drinking Water Regulations: MCL Table

[1] Direct Costs include direct extramural and direct intramural costs. Indirect Costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a Removal Action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual costs from this estimate will affect the United States' right to cost recovery.

11. Method 8260D: Volatile Organic Compounds by Gas Chromatography/Mass Spectroscopy
12. NRC Memo 2/16/11: Jurisdiction for Military Operational Radium 226
13. O'Reilly, Talbot, and Okun: PCBs: Aroclors, Homologs, and Congeners Website
14. ATSDR: Toxicological Profile for PCBs
15. Chemistry of Photographic Processing
16. Regional Removal Management Resident Tapwater Table
17. Role of Background in the CERCLA Cleanup Program, OSWER 9285.6-07P
18. EPA Soil Screening Guidance Fact Sheet, July 1996
19. Table of Aroclors
20. EPA Regional Removal Management Levels Frequently Asked Questions
21. Validated data May 2018
22. Validated data August 2018
23. Validated data October 2018
24. Parcel records
25. Preliminary Identification of Commonwealth of Virginia ARARs

Because conditions at the Shiloh Church Road Site meet the removal action requirements under the NCP, I recommend your approval of the proposed Removal Action. The total Removal Action Project Ceiling, if approved, will be $1,938,000. Of this, an estimated $1,614,988 comes from the Regional Removal Allowance. Please indicate your approval or disapproval below.

Action by the Approving Official:

I have reviewed the above-stated facts and based upon those facts and the information compiled in the documents described above, I hereby determine that the release or threatened release of hazardous substances at and/or from the Site presents or may present an imminent and substantial endangerment to the public health or welfare or to the environment. I concur with the recommended removal action as outlined.

APPROVED _____ May 23, 2019
Paul Leonard
Acting Director
Superfund and Emergency
Management Division
Date

Attachments:

Site Location Map
Enforcement Confidential Memo

SITE LOCATION MAP

Note: Additional maps can be found in the Administrative Record File